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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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805 THIRD AVENUE
NEW YORK, NY 10022

EXAMINER

OLSEN, KAJ K

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/000,473	Applicant(s) ATCHISON ET AL.	
	Examiner Kaj K Olsen	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3-1-2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-59 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 is/are allowed.
- 6) ☒ Claim(s) 30-57 is/are rejected.
- 7) ☒ Claim(s) 58,59 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 30-36, 40-42 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Moi et al (USP 5,938,906).

3. Moi discloses a cassette for holding an electrophoretic gel comprising first and second planar wall members (110, 210) and walls 240 and 250 that define a spacer means adapted to position the first and second wall member in opposed orientation so as to define between opposed inner faces of the wall members a gel-receiving space having open upper and lower ends and closed lateral sides. See fig. 2 and 3 and col. 3, lines 37-45. Moi further discloses a locking means including a plurality of male members (elements 171-174 of fig. 1-3 or the various lips of fig. 5A-5D) with complementary receiving members. This locking means can only effect locking when the opposed inner faces are a predetermined distance apart from each other. See col. 4, lines 15-25; see also the embodiments of fig. 6 and 7. That would read on applicants defined locking means.

4. With respect to the "snap-fit", the action of element 172 with element 272 in fig. 3 would appear to read on "snap-fit" giving the claim language its broadest reasonable interpretation. See also the "snap-fit" of fig. 5-7.

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5. With respect to the defined "primary" and "secondary" spacing elements, any number of the features of Moi (e.g. walls 240 and 250 respectively) would read on broadly defined spacing elements.

6. With respect to the shape of the protrusion, the spacing means of Moi includes space pieces that have protrusions 171-174 on them. A straight piece having a protrusion coming off in a transverse direction would read on "L-shaped" giving the claim language its broadest reasonable interpretation.

7. The use of the cassette of Moi as a vertical cassette is only the intended use of Moi and the intended use need not be given further due consideration in determining patentability.

8. Claims 30, 31, 35-44, 48, 49 and 54-56 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/04307 (hereafter "WO '307").

9. WO '307 discloses a cassette for holding an electrophoretic gel comprising first and second planar wall members (11, 13) and walls 12 and 14 that define a spacer means adapted to position the first and second wall member in opposed orientation so as to define between opposed inner faces of the wall members a gel-receiving space having open upper and lower ends and closed lateral sides. See fig. 1-4. WO '307 further discloses a locking means including a plurality of male members 16 with complementary receiving members 17. This locking means can only effect locking when the opposed inner faces are a predetermined distance apart from each other. See p. 6, lines 13-25. That would read on applicants defined locking means.

10. With respect to the defined "primary" and "secondary" spacing elements, any number of the features of WO '307 (e.g. elements 12, 14, 23, or 22) would read on broadly defined spacing elements.

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11. With respect to the plurality of ridges 12 and 14 on the first and second walls, see fig. 2 and 3. These ridges (as well as element 23) would read on the claim terms "boss", "knob" and "mouth" giving the claim language its broadest reasonable interpretation.

12. The use of the cassette of WO '307 as a vertical cassette is only the intended use of WO '307 and the intended use need not be given further due consideration in determining patentability.

13. With respect to method claim 56, the comb 18 would constitute the set forth spacer element and WO '307 teaches removing that element after gel formation (p. 7, lines 3-9).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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16. Claims 43-49 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moi in view of WO '307.

17. With respect to the claims, Moi set forth all the limitations of the claims, but did not set forth the configuration of boss and recess or the plurality of ribs. WO '307 discloses in an alternate cassette that the addition of ribs 16 (with or without recesses 17) provide additional rigidity to the cassette when less rigid plastics are utilized. It would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of WO '307 for the cassette of Moi in order to provide additional rigidity to the cassette.

18. With respect to claim 56, Moi set forth all the limitations of the claim (see rejection above), but did not explicitly disclose the step of removing a spacer from the cassette. The cassette of Moi utilizes a comb that would not read on the claimed spacer. WO '307 teaches in an alternate gel preparation that the comb utilized for its cassette slides through a side of the cassette allowing for the formation of gel fingers (whereas the comb of Moi only allows for wells for sample introduction). It would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the comb teaching of WO '307 for the cassette of Moi in order to allow for alternate sample introduction means. The comb of WO '307 would read on the claimed spacer and the comb is removed prior to analysis (p. 7, lines 3-9).

19. Claims 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moi or WO '307 in view of Perez (USP 6,432,262 B1).

20. Moi and WO '307 set forth all the limitations of the claims (see rejection above), but does not explicitly disclose the presence of a removable buffer chamber. Perez discloses in an alternate electrophoresis device that the use of a enclosure for gel cassettes where one end of the

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cassette can be mounted into a frame that is capable of holding buffer solution (paragraph bridging col. 2 and 3). This frame structure would read on the applicant's removable buffer chamber giving the claim language its broadest reasonable interpretation. Said frame allows the gel cassettes to be mounted for easy electrophoretic operations, and it would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Perez for the cassettes of Moi and WO '307 in order to facilitate the performance of the electrophoretic experiments. Any number of the elements of the frame (e.g. element 22) would constitute a positioning means for the buffer chamber.

21. Claim 54 is rejected as being obvious over WO '307.

22. WO '307 set forth all the limitations of the claims (see rejections above), and further taught the use of a comb 18. That comb would read on the term "removable plug" giving the claim language its broadest reasonable interpretation. WO '307 does not disclose a cassette having wells that are not the same size as each other (the wells of WO '307 are all the same size). However, one possessing ordinary skill in the art at the time the invention was being made would recognize that different types of samples would require different starting sample sizes. It would have been obvious to one of ordinary skill in the art at the time the invention was being made to make some of the wells larger (and consequently having some of the wells be smaller) in order to provide sufficient sample for detection of the electrophoretic bands.

23. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO '307 or Moi in view of WO '307 in further view of Leffler et al (USP 5,569,369). Leffler has been previously cited, but is being relied on for the first time with this office action. It's use was necessitated by new claim 57.

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24. The references set forth all the limitations of the claim, but did not explicitly recite the use of the cassette for vertical electrophoresis. Leffler teaches that vertical electrophoresis devices provide cleaner separations and smoother macromolecular flow (col. 1, lines 40-47). It would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Leffler for the methods of WO '307 or Moi in view of WO '307 in order to provide cleaner separations and smoother macromolecular flow.

Allowable Subject Matter

25. Claim 29 is allowed.

26. Claims 58 and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

27. Claims 58 and 59 are allowable for the same reason that claim 29 had set forth as being allowable in the previous action.

Response to Arguments

28. Applicant's arguments filed 3-1-2004 have been fully considered but they are not persuasive. With respect to Moi, applicant disagrees with the examiner's assertion that the locking means of Moi reads on the claimed locking means. In particular, applicant urges that Moi is drawn to horizontal electrophoresis, which is very different from vertical electrophoresis. However, most of the claims do not specify anything about vertical electrophoresis and in the structure claims, vertical electrophoresis would only be the intended use of the apparatus.

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Absent any claimed distinction between the vertical electrophoresis cassette of instant invention and the horizontal cassette of Moi, this argument is irrelevant.

29. Applicant also urges that the friction fit of Moi would not read on the claimed locking means. First, the applicant's cite of Moi's use of a friction was only one embodiment of Moi (col. 4, lines 26-30). Second, the examiner is confused why the applicant would not construe Moi as teaching a locking means. Presumably, the embodiment of fig. 9 of the instant invention reads on the applicant's locking means. How does that form of locking differ in a claimed manner from the locking means of Moi in fig. 3, or 5A-5D? These figures of Moi all show a male member that engages a complementary receiving member.

30. Applicant further urges that Moi does not provide any "reasonable locking". First, Moi clearly provides "reasonable locking" because Moi clearly refers to its teaching as a "locking" (see abstract as an example). Second, how is the "reasonable locking" of the instant invention differentiated from the degree of locking that Moi provides? Even if there was a locking differentiation between the instant invention and Moi, that differentiation is not being claimed in any manner that Moi reads free of the rejected claims.

31. With respect to the teaching of WO '307 (i.e. Manus), applicant presumes the examiner is construing ridges 12 and 14 on the opposing plates. Applicant is mistaken. The locking means the examiner was referring to is the action of elements 16 and 17. See p. 6, lines 21-25 of WO '307. Said locking means also reads on the applicant's amended use of male members and complementary receiving members.

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Conclusion

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaj Olsen whose telephone number is (571) 272-1344. The examiner can normally be reached on Monday through Thursday from 6:30 A.M. to 4:00 P.M. and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Kaj Olsen', with a stylized flourish extending to the right.

Kaj Olsen Ph.D.
Primary Examiner
AU 1753
May 11, 2004